Table 1. Summary Evaluation of BDCP Conservation Element Bundles by Covered Fish Species

Effects Categories

B-L● = low beneficial effects at population level

B-M●● = moderate beneficial effects at population level

B-H ●●● = high beneficial effects at population level

NE = negligible or no effect

A-L○ = low adverse effect at population level

A-M○○ = moderate adverse effects at population level

A-H ○○ = high adverse effects at population level

U = unknown

Certainty Categories

□ C-L = low level of certainty regarding assessment of bundle outcomes

□□ C-M = moderate level of certainty regarding assessment of bundle outcomes

□□□ C-H = high level of certainty regarding assessment of bundle outcomes

Conservation Element Bundles	COVERED FISH SPECIES							
	Smelt		**Sturgeon**		**Salmonids**		**Sacramento Splittail**	
	Effect	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**
Water Operations and Conveyance Bundles								
1. Real-time operation of CVP/SWP	**B-L ●**	**□□□ C-H** • Low benefit associated with reduction in entrainment loss	**NE**	**□□□ C-H** • Negligible benefit associated with reduction in entrainment loss, but because relatively few sturgeon are entrained, the level of population benefit would be minimal	**B-L ●**	**□□□ C-H** • Low benefit to more common salmonids; moderate benefit to less common salmonids associated with reduction in entrainment loss; • Benefits depend in part on frequency, magnitude, and duration of export reductions	**B-L ●**	**□□□ C-H** • Low benefit associated with reduction in entrainment loss in most years
2. Reduced demand/Delta diversions	**B-M ●●**	**□□ C-M** • Potential beneficial effects associated with reduced mortality from entrainment, improvements to water quality and flow conditions, increased food availability and quality, and improved ecosystem processes • Benefits are dependent on the amount of reduction	**NE**	**□ C-L** • Largely unknown, but probably minimally positive	**B-M ●●**	**□□□ C-H** • Low benefits from improved water quality and flow conditions • Moderate benefit to less common salmonids associated with reduction in entrainment loss; low benefit to more common salmonids • Benefits are dependent on magnitude and seasonal timing of reduction	**B-M ●●**	**□□□ C-H** • Benefits through increased water quantity and quality, but minimized by high tolerance to environmental conditions

Conservation Element Bundles	COVERED FISH SPECIES							
	Smelt		**Sturgeon**		**Salmonids**		**Sacramento Splittail**	
	Effect	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**
3. Opportunistic exports	**B-L** ●	**□□ C-M** • Low benefit associated with reduction in entrainment loss, hydrologic conditions, habitat quality and availability, food availability, and ecosystem processes • Low adverse effect associated with reducing mortality of non-native competitors and predators • Benefits are dependent on the hydrologic conditions, time of year, magnitude, and duration	**B-M** ●●	**□□ C-M** • Low benefit associated with reduction in entrainment loss and reduction in non-native predators • Low to moderate benefit associated with altering flows to mimic historic hydrologic conditions, and improved spawning habitat quantity and quality	**B-M** ●●	**□□ C-M** • Moderate benefit to less common salmonids associated with reduction in entrainment loss; low benefit to more common salmonids • Moderate benefits associated with improved habitat quantity • Potentially high benefit associated with upstream flow modifications causing improved water quality, flow conditions, and ecosystem processes, and increased food supply, but depends on time of year exporting occurs • Relative benefits should be greater for fall-run than spring- and winter-run due to interactions effects between seasonal flows and requirements for cold-water spawning	**B-M** ●●	**□□ C-M** • Low benefit from reduction in entrainment mortality and improved water quality, and reduced non-native competitors and predators • Moderate benefit associated with increased spawning and juvenile rearing habitat quality and quantity, increase food availability, and ecosystem processes
4. SDA facility	**B-M** ●●	**□□ C-M** • Low to moderate benefit associated with reduced entrainment loss, quality and availability of habitat and food, reduction in non-native competitors and predators, and improved ecosystem processes • Moderate benefit associated with improved hydrodynamics • Long period required to implement relative to species needs • Benefits are dependent on the hydrologic conditions, hydraulic residence time, channel velocities, time of year, location, magnitude, and duration	**A-L** ○	**□ C-L** • Low positive effect associated with improved flow conditions, accessibility to spawning and juvenile rearing habitat, and reduction in non-native predators • Potentially low to moderate adverse effect associated with false attraction flows	**B-M** ●●	**□□ C-H** • Potential adverse effect associated with increased entrainment from two intakes (performance of a new fish screen is unknown), but low effect on overall population • Moderate benefit associated with reduced non-native competitors/predators and increased food quality, quantity, and availability • High benefit associated with upstream flow modifications and more natural flows causing improved water quality, rearing habitat, and ecosystem processes • Potentially high adverse effect associated with false attraction flows	**B-M** ●●	**□□□ C-H** • Adverse effect from increased entrainment associated with two intakes, but low effect on overall population • Moderate to high benefit associated with improved water quality and flow conditions, increase in habitat, increased food availability, reduction in non-native competitors and predators, and ecosystem processes • Improved conditions not expected in south Delta because low salinity must be maintained

Conservation Element Bundles	COVERED FISH SPECIES							
	Smelt		**Sturgeon**		**Salmonids**		**Sacramento Splittail**	
	Effect	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**
5. Isolated facility	**B-H ●●●** • Low benefits associated with improved habitat diversity, quality, and availability • High benefit associated with virtual elimination of entrainment losses, improvements to hydrodynamic conditions, increased food availability, and increased ecosystem processes • Long period required to implement relative to species needs	**□ C-L**	**B-M ●●** • Low benefit associated with entrainment loss and reduction in non-native predators • Moderate benefits associated with increased quality and access to spawning and juvenile rearing habitat, food quantity and quality	**□ C-L**	**B-H ●●●** • Low benefit associated with reduced entrainment mortality • High benefit associated with improved water quality, flow conditions, increased quality and quantity of habitat and migration corridors, increased quantity, quality, and availability of food, and ecosystem processes	**□□ C-M**	**B-H ●●●** • Low benefit associated with reduced entrainment mortality • Moderate benefit associated with reduced non-native competitors and predators • High benefit associated with improved water quality and flow conditions, increased habitat and food quality, quantity, and accessibility, and improved ecosystem processes	**□□□ C-H**
6. Bifurcated SDA facility	**B-M ●●** • Low benefits associated with improved hydrologic conditions, increased habitat diversity, complexity, quality, and availability • High benefits associated with increased food availability and improved ecosystem processes • Long period required to implement relative to species needs	**□ C-L**	**B-L ●** • Low to moderate beneficial effects associated with reduced mortality, improved flow conditions to improve access to spawning and juvenile rearing habitat, and reduction in non-native predators • Potentially low adverse effect associated with false attraction flows	**□ C-L**	**B-M ●●** • Low benefit associated with reduced entrainment mortality • Moderate benefits associated with reductions of non-native competitors/predators • High benefits associated with improved water quality and flow conditions, higher quality and quantity of juvenile rearing habitat and migration corridors, increased food quality, quantity, and availability, and improved ecosystem processes • Potentially high adverse effect associated with false attraction flows	**□□ C-M**	**B-M ●●** • Low adverse effect associated with increased entrainment from two intakes • Low benefit associated with reduction in non-native competitors and predators • Moderate beneficial impact associated with improved water quality • High beneficial effects associated with increased habitat and food quality, quantity, and availability, and ecosystem processes	**□□□ C-H**
7. Dual conveyance facility	**B-M ●●** • Low benefit associated with improved water quality and flow conditions, increased habitat quality and availability, • Moderate improvements to food availability and ecosystem processes • Potentially high adverse effect from not being implemented within a time frame needed for the species	**□□ C-M**	**A-L ○** • Low benefit associated with reduced entrainment mortality, based on relative use of IF vs. South Delta facilities, and reduction in non-native predators • Low to moderate benefit effect associated with fluctuating hydrologic conditions, improved access to spawning and juvenile rearing habitat, reduced water quality and food supply • Dredging would cause adverse effects on water quality	**□ C-L**	**B-M ●●** • Low benefit associated with reduced entrainment mortality • Moderate benefits associated with increased food quality, quantity, and availability, reductions in non-native competitors and predators (but less than #5) • High benefits associated with improved water quality and flow conditions, increased quality and quantity of rearing habitat and migration corridors (though lower than #5 due to dredging and levee reinforcement)	**□□ C-M**	**B-L ●** • Low benefit associated with reduced mortality from entrainment and non-native mortality, increased water quality • Low adverse effect associated with reduced flow conditions and water residence time leading to reduced food quantity • Moderate benefit associated with increased habitat quantity, quality and accessibility	**□□□ C-H**

Conservation Element Bundles	COVERED FISH SPECIES							
	Smelt		**Sturgeon**		**Salmonids**		**Sacramento Splittail**	
	Effect	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**
8. SJR corridor isolated	**A-L** ○ • Low adverse effect associated with increased entrainment, reduced hydrologic residence times, and reduced ecosystem processes • Low benefit associated with food availability • Potentially high adverse effect from not being implemented within a time frame needed for the species	□□ **C-M**	**U** • Not enough known about sturgeon to evaluate effects, but possible increase in entrainment and decrease in habitat quality and food quantity	□ **C-L**	**B-L** ● • Low benefit associated with increased food quantity and improve conditions for salmonids emigrating from San Joaquin River system	□□□ **C-H**	**NE** • Low adverse effects associated with reduced habitat quality and food production from reduced water residence time • Low benefit associated with reduced mortality from entrainment • Moderate benefit associated with increased food supply	□□□ **C-H**
Entrainment and Predation Mortality Reduction Bundles								
9. Minimize SWP/CVP mortality	**NE** • Low benefit associated with reduced mortality from entrainment • Low adverse effect associated with reduced mortality of non-natives	□□ **C-M**	**U** • Not enough known about sturgeon to evaluate effects, but possible decrease in entrainment	□ **C-L**	**NE** • Low benefit from reduced predation by non-natives in CCF • Low adverse effect associated with reduction in non-native predators	□□□ **C-H**	**NE** • Low benefit associated with reduced mortality from entrainment • Low adverse effect of reduced mortality of non-natives	□□□ **C-H**
10. Minimize non-SWP/CVP entrainment	**B-L** ● • Low benefit associated with reduced mortality from entrainment, increased food quality and availability, and improved ecosystem processes • Moderate benefit associated with improved hydrodynamic conditions and water quality if diversions are consolidated/ removed • Low adverse effect associated with reduced non-native mortality from entrainment	□□ **C-M**	**B-L** ● • Low benefit associated with reduced mortality from entrainment	□□ **C-M**	**NE** • Likely minimal benefit associated with reduced entrainment • Low adverse effect of reduced mortality of non-native predators/competitors	□□□ **C-H**	**NE** • Low benefit associated with reduced mortality from entrainment • Low adverse effect of reduced mortality of non-native predators/competitors	□□□ **C-H**
11. Improve habitat to reduce predation	**B-L** ● • Low benefit associated with reduced mortality from predation by non-natives, water quality and hydrologic conditions	□ **C-L**	**U** • Not enough known about sturgeon to evaluate effects, but possible marginal benefit by reducing predator abundance	□ **C-L**	**B-L** ● • Low benefit associated with reduced predation by non-natives, higher habitat quantity and quality, but dependent on amount of improvements	□□ **C-M**	**B-M** ●● • Marginal benefit associated with increased shallow water habitat • Moderate beneficial effect associated with reduced predation	□□□ **C-H**

Conservation Element Bundles	COVERED FISH SPECIES							
	Smelt		Sturgeon		Salmonids		Sacramento Splittail	
	Effect	Certainty	Effect	Certainty	Effect	Certainty	Effect	Certainty
12. Isolate gravel pits	NE • Outside of species habitat	□□□ C-H	NE • Ongoing sampling indicates captured gravel pits are not a stressor on green or white sturgeon	□□□ C-H	B-L ● • Low benefits associated with reduced predation by non-natives • Benefits will be greatest on San Joaquin, where majority of gravel pits are located	□□ C-M	B-L ● • Low benefit associated with reduced predation by non-natives and marginal increase in shallow habitat	□□□ C-H
13. Install screens on upstream diversions	NE • Outside of species habitat	□□□ C-H	NE • Negligible benefit associated with reduced entrainment loss	□□ C-M	NE • Negligible benefit associated with reduced entrainment loss, but expected to be minimal	□□ C-M	NE • Positive effects of reduced entrainment would be cancelled out by adverse effects of reduced entrainment of predators and competitors	□□□ C-H
Flow-Related Habitat Improvement Bundles								
14. Operate DCC to improve passage	NE • Marginal benefit associated with reduced non-native predator habitat, but expected to be negligible	□□ C-M	NE • DCC gates are currently open during juvenile outmigration period, so no additional benefit	□□ C-M	NE • Gates are already operated to minimize outmigrating salmonid mortality; therefore, effects are minimal	□□□ C-H	B-L ● • Low benefit associated with increased water quality and flow conditions from closed gates	□□□ C-H
15. Open DCC & install screens at DCC & Georgiana Slough	NE • Potential marginal benefit associated with reduced non-native predator habitat	□□ C-M	A-L ○ • Low to moderate adverse effects associated with reduced access to food and habitat in the interior Delta	□□ C-M	B-M ●● • Moderate benefit associated with higher survival from reduced passage into interior Delta • Low adverse effects associated with reduced water quality and flow conditions in interior Delta	□□ C-M	A-L ○ • Low adverse effects associated with reduced water quality, flow conditions and increased toxics • Negligible adverse effect associated with reduced access to food in interior Delta	□□□ C-H
16. Re-operate upstream storage facilities	NE • Outside of species habitat	□□ C-M	B-M ●● • Moderate positive effect associated with increased water quality, creation of attraction flows, barrier passage flow, and improved habitat quality and quantity	□□ C-M	B-M ●● • Moderate benefit associated with increased water quality and flow conditions, increased habitat quantity, and ecosystem processes • Potentially low to moderate benefit associated with increased food quality and reduced non-native species	□□ C-M	B-H ●●● • Low positive effects associated with increased food quality and quantity and reduction of non-native competitors and predators • Moderate positive effects associated with increase water quality and flow conditions • High positive effects associated with increased accessibility to spawning habitat and improved ecosystem processes	□□□ C-H

Conservation Element Bundles	COVERED FISH SPECIES							
	Smelt		**Sturgeon**		**Salmonids**		**Sacramento Splittail**	
	Effect	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**	**Effect**	**Certainty**
17. Improve and create bypass and floodway habitat	**NE** • Outside of species habitat	**□□ C-M**	**B-M ●●** • Low to moderate benefits associated with reductions in non-natural mortality, improved water quality, improved availability of habitat, and improved food quality and quantity	**□□ C-M**	**B-M ●●** • Moderate benefits associated with reduced abundance of non-natives competitors and predators, increased habitat quantity, increased food quality and quantity, and improved ecosystem processes	**□□□ C-H**	**B-H ●●●** • High benefits associated with food and habitat quality, quantity, and accessibility, and improved ecosystem processes	**□□□ C-H**
Physical Habitat Restoration Bundles								
18. Restore habitat in the north, east, and west Delta	**B-H ●●●** • Low benefit associated with improved water quality and hydrologic conditions • High benefit associated with improved habitat quality, availability, and complexity, and ecosystem processes • Potential high benefit associated with increased food availability, but largely unknown	**□□ C-L**	**B-H ●●** • Moderate to high benefits associated with increased quantity, quality, quantity, and availability of habitat and food	**□□ C-M**	**B-L ●** • Low benefits from reduced mortality from non-natives, increased food quantity, improved habitat quality and quantity, and improved ecosystem processes	**□□ C-M**	**B-H ●●●** • Low benefits associated with reductions of non-natives • Moderate benefits associated with improved water quality • High benefits associated with increased quality, quantity, and accessibility in habitat and food and improved ecosystem processes	**□□□ C-H**
19. Restore habitat in the central Delta	**B-H ●●●** • Similar to but lower benefits than #18 and #21 because central Delta has lower value to smelt than north Delta and Suisun Marsh, but greater than #20 because central Delta has higher value to smelt than south Delta	**□ C-L**	**B-M ●●** • Moderate to high benefits associated with increased quantity, quality, quantity, and availability of habitat and food	**□□ C-M**	**B-L ●** • Benefits similar to #18, but lower because fewer salmonids pass through central Delta	**□□ C-M**	**B-M ●●** • Similar to but lower benefits than #18 because smaller area and less desirable habitat for splittail	**□□□ C-H**
20. Restore habitat in the south Delta	**B-M ●●** • Similar to but lower benefits than #18, #19, #21 because south Delta has lower value to smelt than north Delta, central Delta, and Suisun Marsh	**□ C-L**	**B-L ●** • Similar to but lower benefits than #18 & 19 because sturgeon enter Delta from the north	**□ C-L**	**B-L ●** • Benefits similar to #18, but lower because only steelhead and fall-run salmonids are in San Joaquin River	**□□ C-M**	**B-M ●●** • Similar to but lower benefits than #18 because smaller area and less desirable habitat for splittail	**□□□ C-H**

Conservation Element Bundles	COVERED FISH SPECIES							
	Smelt		Sturgeon		Salmonids		Sacramento Splittail	
	Effect	Certainty	Effect	Certainty	Effect	Certainty	Effect	Certainty
21. Restore Suisun Marsh habitat	**B-H ●●●** • Similar benefits to #18, but greater than #19 & #21 because Suisun Marsh has higher value to smelt than south and central Delta	**□ C-L**	**B-L ●** • Low benefits associated with improved water quality, flow conditions and increased habitat availability, increased food availability	**□ C-L**	**B-L ●** • Low benefits from reduced mortality from non-natives, increased food quantity, improved habitat quality and quantity, and improved ecosystem processes	**□□□ C-H**	**B-H ●●●** • Low beneficial effects associated with reduced non-native competitors and predators • Moderate benefits associated with reduced mortality, increase water quality and flow conditions • High benefit associated with increased habitat quantity, quality, and availability for juveniles and adults	**□□ C-M**
22. Restore habitat upstream of Delta	**NE** • Outside of species habitat	**□□ C-M**	**B-M●●** • Low to moderate benefits associated with improved water quality, • Moderate benefits associated with improved access to and quantity of spawning habitat, increased food supply	**□□ C-M**	**B-H ●●●** • High benefits associated with reduced mortality from non-native predators, improving hydrologic conditions, increased quantity, quality, and accessibility of habitat, increased food supply, improved ecological processes	**□□□ C-H**	**B-H ●●●** • High benefits specifically from floodplain restoration (similar to #17)	**□□□ C-H**

Table 2. Comparison of Evaluation Results for Covered Fish Species

Effects Categories

B-L● = low beneficial effects at population level

B-M●● = moderate beneficial effects at population level

B-H ●●● = high beneficial effects at population level

NE = negligible or no effect

A-L○ = low adverse effect at population level

A-M○○ = moderate adverse effects at population level

A-H ○○ = high adverse effects at population level

U = unknown

Certainty Categories

□ C-L = low level of certainty regarding assessment of bundle outcomes

□□ C-M = moderate level of certainty regarding assessment of bundle outcomes

□□□ C-H = high level of certainty regarding assessment of bundle outcomes

Conservation Element Bundles	Covered Fish Species							
	Smelt		Sturgeon		Salmonids		Sacramento Splittail	
	Effect	Certainty	Effect	Certainty	Effect	Certainty	Effect	Certainty
Water Operations and Conveyance Bundles								
1. Real-time operation of CVP/SWP	B-L ●	□□□ C-H	NE	□□□ C-H	B-L ●	□□□ C-H	B-L ●	□□□ C-H
2. Reduced demand/Delta diversions	B-M ●●	□□ C-M	NE	□ C-L	B-M ●●	□□□ C-H	B-M ●●	□□□ C-H
3. Opportunistic exports	B-L ●	□□ C-M	B-M ●●	□□ C-M	B-M ●●	□□ C-M	B-M ●●	□□ C-M
4. SDA facility	B-M ●●	□□ C-M	A-L ○	□ C-L	B-M ●●	□□ C-H	B-M ●●	□□□ C-H
5. Isolated facility	B-H ●●●	□ C-L	B-M ●●	□ C-L	B-H ●●●	□□ C-M	B-H ●●●	□□□ C-H
6. Bifurcated SDA facility	B-M ●●	□ C-L	B-L ●	□ C-L	B-M ●●	□□ C-M	B-M ●●	□□□ C-H
7. Dual conveyance facility	B-M ●●	□□ C-M	A-L ○	□ C-L	B-M ●●	□□ C-M	B-L ●	□□□ C-H
8. SJR corridor isolated	A-L ○	□□ C-M	U	□ C-L	B-L ●	□□□ C-H	NE	□□□ C-H
Entrainment and Predation Mortality Reduction Bundles								
9. Minimize SWP/CVP mortality	NE	□□ C-M	U	□ C-L	NE	□□□ C-H	NE	□□□ C-H
10. Minimize non-SWP/CVP entrainment	B-L ●	□□ C-M	B-L ●	□□ C-M	NE	□□□ C-H	NE	□□□ C-H
11. Improve habitat to reduce predation	B-L ●	□ C-L	U	□ C-L	B-L ●	□□ C-M	B-M ●●	□□□ C-H
12. Isolate gravel pits	NE	□□□ C-H	NE	□□□ C-H	B-L ●	□□ C-M	B-L ●	□□□ C-H
13. Install screens on upstream diversions	NE	□□□ C-H	NE	□□ C-M	NE	□□ C-M	NE	□□□ C-H
Flow-Related Habitat Improvement Bundles								
14. Operate DCC to improve passage	NE	□□ C-M	NE	□□ C-M	NE	□□□ C-H	B-L ●	□□□ C-H
15. Open DCC & install screens at DCC &	NE	□□ C-M	A-L ○	□□ C-M	B-M ●●	□□ C-M	A-L ○	□□□ C-H
16. Re-operate upstream storage facilities	NE	□□ C-M	B-M ●●	□□ C-M	B-M ●●	□□ C-M	B-H ●●●	□□□ C-H
17. Improve and create bypass and floodway	NE	□□ C-M	B-M ●●	□□ C-M	B-M ●●	□□□ C-H	B-H ●●●	□□□ C-H
Physical Habitat Restoration Bundles								
18. Restore habitat in the north, east, and west	B-H ●●●	□□ C-L	B-H ●●	□□ C-M	B-L ●	□□ C-M	B-H ●●●	□□□ C-H
19. Restore habitat in the central Delta	B-H ●●●	□ C-L	B-M ●●	□□ C-M	B-L ●	□□ C-M	B-M ●●	□□□ C-H
20. Restore habitat in the south Delta	B-M ●●	□ C-L	B-L ●	□ C-L	B-L ●	□□ C-M	B-M ●●	□□□ C-H
21. Restore Suisun Marsh habitat	B-H ●●●	□ C-L	B-L ●	□ C-L	B-L ●	□□□ C-H	B-H ●●●	□□ C-M
22. Restore habitat upstream of Delta	NE	□□ C-M	B-M●●	□□ C-M	B-H ●●●	□□□ C-H	B-H ●●●	□□□ C-H

Table 3. Summary Evaluation of BDCP Conservation Element Bundles by Short-Listing Criteria Category

Conservation Element Bundles	SHORT-LISTING CRITERIA CATEGORY			
	Biological	**Planning/Feasibility**	**Flexibility/Durability/ Sustainability**	**Impacts to Other Resources**
Water Operations and Conveyance Bundles				
1. Real-time operation of CVP/SWP	• Low benefit associated with reduction in entrainment loss of smelt, salmonids, and splittail • Minimal effect on sturgeon	• Depending on ability to conduct real-time operations, may be implemented to achieve covered activity goals • Funding and engineering feasibility is not a concern because does not involve any new construction • Sufficient knowledge regarding species behaviors to effectively conduct real-time operations may not be feasible in the near-term	• Long-term could be constrained by climate change if hydrology changes and exports can no longer be met, could also be impacted by seismic activity and island subsidence • Provides minimal support for ecosystem processes compared to #3-#7 • To the extent entrainment is a stressor, this bundle is highly adaptable at short and long time scales, and entirely reversible	• Least likely of operations bundles (#1-#8) to affect other species inside or outside planning area (Delta) • Fewest impacts on human environment of operations bundles
2. Reduced demand/ diversions	• Moderate benefit to smelt, salmonids, and splittail based on reduced entrainment mortality and improved water quality and flow conditions • Minimal impact to sturgeon, although certainty is low • Benefits are highly dependent on amount of reduction	• Would be contrary to SWP/CVP goals and therefore not meet planning goals; not a problem for Mirant • Reduced exports would have no capital costs • Costs of demand reduction programs and infrastructure unknown, but funding feasibility high	• Reduced exports would reduce overall levee failure risk but long-term climate change and seismic and island subsidence still risks • Would provide minimal support for ecosystem processes compared to #3-#7 • Reversible at household scale (though no reason to do so), but not at larger scale due to capital costs (e.g. desalinization plants)	• Not likely to significantly affect other species inside or outside the planning area • Few impacts on human environment
3. Opportunistic exports	• Low overall benefit to smelt based on both positive and negative effects • Moderate effect on sturgeon, salmonids, and splittail based on increased food, habitat, and hydrologic conditions	• May (but, may not) meet SWP/CVP goals if much greater exports permitted during high flows; would meet Mirant's goals • Uncertain whether future hydrologic conditions would enable this option in long term • Feasibility likely less than #1 and #2, roughly same as #4-7 due to likely associated construction • Major expansion of pumping and storage facilities would be needed • Cost: $100s M - $B	• Impacts and feasibility uncertain without engineering studies • Better flow and ecosystem process restoration than in #1, #2, #8 • Adaptable to covered species needs but not easily reversible due to facility construction needs	• Improve conditions for native aquatic species with restoration of fluctuating hydrology/salinity • Negative impacts to riparian, wetland, and terrestrial species from fluctuating salinity, change in farmland use, and new facilities construction south of Delta • Impacts on human environment due to construction, less than or similar to #4-7 depending on type and extent of storage projects

Conservation Element Bundles	SHORT-LISTING CRITERIA CATEGORY			
	Biological	**Planning/Feasibility**	**Flexibility/Durability/ Sustainability**	**Impacts to Other Resources**
4. SDA facility	• Moderate benefit to smelt, salmonids, and splittail from increased food, habitat, and hydrologic conditions • Low adverse effect to sturgeon based on false attractions flows, but low certainty (affects salmonids, too, but benefits outweigh adverse effect) • Not likely to meet smelt needs due to time needed for implementation	• Would likely meet planning and export goals at same level as #5, #6, better than #1-#3, #7, #8 though possible impacts to covered fish by mixing Sacramento and SJ Rivers • Many unknowns (e.g.., fish screening, political) • Cost analysis not completed, at least $2-3B	• Levee integrity crucial to durability; seismic loading and sea-level rise must be considered • Better flow restoration and more adaptable than #1-#3, #7-#8 • Would require ongoing maintenance • Not reversible due to major construction	• Restored hydrologic conditions and salinity fluctuation would improve conditions for native aquatic species, except in south Delta • Negative impacts to riparian, wetland, and terrestrial species from fluctuating salinity, change in farmland use, and new facilities construction, more than #3 • Human environment impacts due to construction, more than #3 • Canal would create barrier to movement for terrestrial species
5. Isolated facility	• High benefits to smelt, salmonids and splittail and moderate benefits to sturgeon associated with more natural Delta conditions • Not likely to meet smelt needs due to time needed for implementation	• Would likely meet planning and export goals at same level as #5, #6, likely better than all others if river water mixing has negative impacts to fish • Many unknowns (e.g.., fish screening, political) • Cost analysis not completed, at least $2-3B	• Seismic loading and sea-level rise less a factor than for non-isolated bundles (#1-4 and 8); levee integrity not an issue • Best flow and ecosystem process bundle, most adaptable for fish needs • Would require ongoing maintenance • Not reversible due to major construction	• Restored hydrologic conditions and salinity fluctuation would improve conditions for native aquatic species throughout planning area and downstream • Negative impacts to riparian, wetland, and terrestrial species from fluctuating salinity, change in farmland use, and new facilities construction, more than #3 or #4 • Human environment impacts due to major construction, more than #3, #4 • Canal would create barrier to movement for terrestrial species
6. Bifurcated SDA facility	• Low to moderate benefits to smelt, salmonids, and sturgeon and high benefits to splittail primarily associated with improved Delta conditions (hydrologic conditions, non-natives, food, habitat, and ecosystem processes) • Moderate adverse effects from false attraction flows on sturgeon and salmonids, but offset by benefits of the action on these species • Not likely to meet smelt needs due to time needed for implementation	• Would likely meet planning and export goals at same level as #4, #5, better than #1-#3, #7, #8 though possible impacts to covered fish by mixing Sacramento and SJ Rivers • Many unknowns (e.g. fish screening, political) • Hybrid between #4, #5, costs similar, $2-3B	• Seismic loading and sea-level rise less a factor than for bundles without isolated conveyance component (#1-4 and 8); levee integrity less of an issue • Impacts and feasibility uncertain without engineering studies • Better flow and ecosystem process restoration than in #1, #2, #8 • Would require ongoing maintenance • Adaptable to covered species needs but not easily reversible due to major construction	• Restored hydrologic conditions and salinity fluctuation would improve conditions for native aquatic species throughout planning area, lesser extent than #5 • Negative impacts to riparian, wetland, and terrestrial species from fluctuating salinity, change in farmland use, and new facilities construction, more than #3, similar to #5 • Human environment impacts due to major construction, same as #5 • Canals would create barrier to movement for terrestrial species

Conservation Element Bundles	SHORT-LISTING CRITERIA CATEGORY			
	Biological	**Planning/Feasibility**	**Flexibility/Durability/ Sustainability**	**Impacts to Other Resources**
7. Dual conveyance facility	• Low benefit to splittail associated with reduced entrainment loss, increased habitat, and improved water quality offset by reduced flow conditions reduced flow conditions • Moderate benefit to smelt associated with improved Delta conditions (hydrologic conditions, non-natives, food, habitat, and ecosystem processes) • Low adverse effect on sturgeon from reduction in water quality due to dredging • Not likely to meet smelt needs due to time needed for implementation	• Could meet SWP/CVP goals and Mirant goals • Many unknowns (e.g. fish screening, political) • Cost $1.6-$2.4B	• Levee integrity crucial to durability; seismic loading and sea-level rise must be considered; isolated conveyance component provides greater durability than #1-4 and #8) • Less flow and ecosystem benefits than fully isolated facilities • More adaptable than #1-2, #8 for covered species needs but not easily reversible due to major construction	• Restored hydrologic conditions and salinity fluctuation would improve conditions for native aquatic species throughout planning area, lesser extent than #5 • Negative impacts to riparian, wetland, and terrestrial species from fluctuating salinity, change in farmland use, and new facilities construction, more than #3, similar to #5 • Human environment impacts due to major construction, greatest of #1-8 • Canals would create barrier to movement for terrestrial species
8. San Joaquin River Corridor Isolated	• Adverse effect on smelt from increased hydrologic residence time and timeframe needed for implementation • Effect on sturgeon is unknown, but possibly adverse • Low benefit to salmonids based on food supply and emigration from San Joaquin River (fall-run Chinook and steelhead only) • No net benefit to splittail	• Could meet SWP/CVP goals and Mirant • Engineering feasible • $0.75-$1.75 B construction costs; ongoing operation costs unknowns, millions per year	• Levee integrity crucial to durability; seismic loading and sea-level rise must be considered risks • Would improve flows and ecosystem processes in SJ River but not elsewhere in Delta • Not adaptable; reversibility low, but better than other bundles #4-7	• Improvements to habitat in SJ River and south Delta, lesser than #3-7 • No effects to species outside Delta • Localized negative impacts to riparian and terrestrial species from construction • Some human environment impacts due to construction, less than #3-7
Entrainment and Predation Mortality Reduction Bundles				
9. Minimize SWP/CVP mortality	• Negligible/no impact to smelt, salmonids, and splittail • Unknown impact to sturgeon, but possible decrease in entrainment	• Less likely to achieve water supply goals than (#4-7) but more likely than #10-13 • Feasible, well known mechanisms • Capital costs $5-10M but low confidence on estimate	• Seismic loading and sea-level rise must be considered • Does not improve ecosystem process • Short-term adaptability, not known long-term • Almost completely reversible, rapidly	• Beneficial, more than #10-11, for native aquatic species in Delta; no effects outside Delta • Relatively minor human environment impacts
10. Minimize non-SWP/CVP entrainment	• Low benefit to smelt based primarily on entrainment and flow conditions • Low benefit to sturgeon and splittail from reduced entrainment • Net negligible effect to salmonids and splittail	• Less likely to achieve SWP/CVP goals than #4-7, but likely to enable Mirant to achieve both its sets of goals (operations and conserving covered fish) • Very feasible, well known technology; dependent on willingness of other water users to participate • Costs $20-70M, but low confidence on estimate	• Design with seismic loading and sea level rise in mind, but minimal concern overall • Does not support ecosystem processes • Not highly adaptable; moderately reversible	• Like #9, but smaller impacts because fewer facilities • Relatively minor impacts on human environment impacts

Conservation Element Bundles	SHORT-LISTING CRITERIA CATEGORY			
	Biological	**Planning/Feasibility**	**Flexibility/Durability/ Sustainability**	**Impacts to Other Resources**
11. Reduce predation	• Low benefit to smelt and salmonids primarily from reduction in non-native predation and improved water quality and hydrologic conditions • Unknown impacts on sturgeon, but possible marginal benefit • Moderate benefit to splittail from increased habitat and reduced non-native predation	• Only addresses one source of mortality; would not likely enable SWP/CVP to meet their goals • Fairly easy engineering and relatively low cost	• Effects of sea level rise, seismic events, and levee failures could include loss or alteration of the habitat, but low magnitude of effects • Does not improve ecosystem processes • Adaptable if good monitoring, relatively easily reversible	• Beneficial effects on native aquatic species to lesser extent than #9; no effects outside Delta • Human environment impacts temporary and localized
12. Isolate gravel pits	• Minimal or no effect on smelt and sturgeon • Low benefit to salmonids and splittail primarily associated with reduced predation by non-natives • Effects will be greatest on San Joaquin River, where most gravel pits are located	• Only addresses one source of mortality; would not likely enable SWP/CVP to meet their goals • Fairly easy engineering but chances of success not known • Could cost $ Millions per project	• Unlikely to be affected by climate change or seismic events • Does not address ecosystem processes • Not easily adaptable or reversible, but not likely to need to be reversed	• Only minor effects on other species in Delta; no effects outside Delta • Moderate human environment impacts from construction, less than #9-10, more than #11,#13
13. Install screens on river diversions	• Negligible impacts to all species	• Less likely than #4-7 to achieve SWP/CVP goals, depends on voluntary participation • Screening techniques well known • Cost: $45-100M, or ~$1m per screen	• Unlikely to be affected by climate change or seismic events • Does not address ecosystem processes • Not easily adaptable or reversible, but not likely to need to be reversed	• Not likely to affect other species in Delta; could have minor positive effect on entrained fish upstream • Human environment impacts temporary and localized
Flow-Related Habitat Improvement Bundles				
14. Improve DCC operations	• Negligible impact on smelt • Negligible additional benefit to sturgeon because gates are currently open during juvenile outmigration • Negligible additional impact to salmonids because gates are currently operated primarily for their benefit • Low benefit to splittail from improved flow conditions and water quality	• Not alone likely to enable SWP/CVP to meet their goals; no effect on Mirant • Feasible and very low capital costs	• Operation would not be effected by seismic events, sea level rise, or levee failures, but management could change • Does not address ecosystem processes • Easily adaptable and reversible	• Not likely to have effects on other species inside or outside Delta • If higher salinities result, there could be some agricultural land loss and water treatment costs
15. Screen and open the DCC	• Negligible impact on smelt • Low adverse effect on sturgeon associated with reduced access to food and habitat in interior Delta • Moderate benefit to salmonids associated with high survival from reduced passage into interior Delta • Low adverse effect on splittail associated with reduced water quality and flow conditions	• Not alone likely to enable SWP/CVP to meet their goals; no effect on Mirant • DCC feasible with no capital costs; screens challenging but feasible, may be $500M	• Seismic events should be considered when designing screens, but operations would not be effected by seismic, sea level rise, or levee failures; management could change • Does not address ecosystem processes • Adaptable and reversible, but expensive to reverse	• Not likely to have effects on other species inside or outside Delta • Local impacts on human environment impacts due to construction of new facility

Conservation Element Bundles	SHORT-LISTING CRITERIA CATEGORY			
	Biological	**Planning/Feasibility**	**Flexibility/Durability/ Sustainability**	**Impacts to Other Resources**
16. Re-operate storage facilities	• Negligible benefit to smelt • associated with improved • Moderate benefit to salmonids and high benefits to sturgeon and splittail primarily associated with improved food, flow, water quality, and habitat	• Could reduce amount of water available for export and therefore fail to meet SWP/CVP goals • Feasible but could be constrained by downstream legal and physical factors • No additional capital costs	• Hydrology changes (e.g., associated with climate change) could affect ongoing implementation; would require ongoing operation and maintenance • Would restore historic flows that supported fish and their habitats • Highly adaptable and easily reversible	• Benefits to species upstream; minor distribution changes of species in Delta due to hydrological changes • No human environment impacts likely • Socioeconomic impacts only if reduced exports
17. Improve and create bypass and floodway habitat	• Negligible benefit to smelt • Moderate benefit to sturgeon and salmonids and high benefits to splittail primarily associat4ed with reduction in non-natives, improved water quality, and increased habitat and food • Among the elements that will provide highest benefit to splittail	• Could improve reliability of exports slightly, but not alone likely to enable SWP/CVP to meet their goals • Feasibility not readily known without specific projects; geographic, political, land use constraints • $5800 per acre average cost of restoration	• Sea level rise would need to be considered • Would restore ecosystem process for fish but would require ongoing maintenance and management.. • Moderately adaptable; reversing improvements possible but not practical	• Benefits to aquatic and other species inside and outside Delta; greater benefits than #14-17. • Large impacts to human environment, especially socioeconomic from land sales and use conversion
Physical Habitat Restoration Bundles				
18. Restore habitat in the north, east, and west Delta	• High benefit to smelt, sturgeon, and splittail primarily associated with improved food, habitat, and ecosystem processes • Low benefit to salmonids, but would be greatly enhanced if implemented in tandem with #22 • Among the elements that will provide highest benefit to splittail	• Does not directly help achieve export goals but could ease regulatory restrictions, enabling achievement of goals • Many challenges, including landownership and technical • Costs highly variable; between $70,000-280,000 per mile, $500-2000 per acre; full Delta restoration several $B	• Should consider effects of sea level rise, seismic events, and levee failures • Adaptability uncertain • Reversibility impractical and unlikely	• Substantial improvements for aquatic and other species inside and outside Delta; negative impacts to species that forage in ag lands or prefer freshwater • Greater impacts than #19-20 • Habitat creation on existing levees no human environment impact • Levee setbacks would be associated with high human environment impacts, and socioeconomic impacts due to loss of ag land
19. Restore habitat in the central Delta	• Similar effects to smelt, salmonids, and splittail as #18, but lower because lower quality and quantity of habitat • Similar effects to sturgeon as #18 • Benefits to salmonids would be greatly enhanced if implemented in tandem with #22	• Does not directly help achieve export goals but could ease regulatory restrictions, enabling achievement of goals; lesser magnitude than #18 • Many challenges, including landownership and technical; island restoration more difficult for #19 than #18 or #20 because more subsidence in central Delta • Costs highly variable; unit costs higher than for #18 due to more challenges with subsidence	• Should consider effects of sea level rise, seismic events, and levee failures • Adaptability uncertain • Reversibility impractical and unlikely	• Substantial improvements for aquatic and other species inside and outside Delta, better than #18 for waterfowl; negative impacts to species that forage in ag lands or prefer freshwater • Less impacts than #18 • Habitat creation on existing levees would have no human environment impact • Levee setbacks would be associated with high human environment impacts, and socioeconomic impacts due to loss of ag land; lesser magnitude than #18

Conservation Element Bundles	SHORT-LISTING CRITERIA CATEGORY			
	Biological	**Planning/Feasibility**	**Flexibility/Durability/ Sustainability**	**Impacts to Other Resources**
20. Restore habitat in the south Delta	• Similar to but lower benefits to smelt as #18, 19, & 21 because lower quality habitat • Similar to but lower benefits to sturgeon as #18 & 19 because lower abundance of sturgeon in south Delta • Similar to but lower benefits to salmonids because only fall-run Chinook and steelhead are found in San Joaquin River • Similar to but lower benefits to splittail as #18 because of lower quantity and quality of habitat • Benefits to salmonids would be greatly enhanced if implemented in tandem with #22	• Does not directly help achieve export goals but could ease regulatory restrictions, enabling achievement of goals; lesser magnitude than #18 • Many challenges, including landownership and technical • Costs highly variable; between $70,000-280,000 per mile, $500-2000 per acre; lower cost than #18 Delta restoration due to smaller area	• Should consider effects of sea level rise, seismic events, and levee failures • Adaptability uncertain • Reversibility impractical and unlikely	• Substantial improvements for aquatic and other species inside and outside Delta; negative impacts to species that forage in ag lands or prefer freshwater • Less impacts than #18 • Habitat creation on existing levees no human environment impact • Levee setbacks would be associated with high human environment impacts, and socioeconomic impacts due to loss of ag land
21. Restore Suisun Marsh habitat	• Similar benefits to smelt as #18, but greater than 19 & 20 because high quality habitat • Low benefits to sturgeon and salmonids primarily associated with improved food and habitat conditions • High benefits to splittail from improved Delta conditions • Benefits to salmonids would be greatly enhanced if implemented in tandem with #22	• Does not directly help achieve export goals but could ease regulatory restrictions, enabling achievement of goals • Technically feasible, depends on landowner willingness • Cost depends on extent; $37-$52M likely	• Should consider effects of sea level rise, seismic events, and levee failures • Adaptability uncertain • Reversibility impractical and unlikely	• No effects on other species in the Delta, but enhanced habitat for species outside the Delta • Human environmental impacts from construction moderate, and socioeconomic impacts from loss of ag land and duck clubs local to regional
22. Restore habitat upstream of Delta	• Negligible impact to smelt • High benefit to sturgeon associated with water quality, habitat, and food • Greatest benefit to salmonids of all element bundles associated with reduced non-native predation and improved flow, habitat, food, and ecosystem processes • High benefits to splittail specifically from floodplain restoration (similar to #17)	• Does not directly help achieve export goals but could ease regulatory restrictions, enabling achievement of goals • Some technical, landownership challenges and socioeconomic effects • Costs will vary, but could total $230-390M	• Should consider effects of sea level rise, seismic events, and levee failures • Adaptability uncertain • Reversibility impractical and unlikely	• No effects on other species in the Delta, but enhanced habitat where implemented • Human environmental impacts from construction low and localized

Table 4. Comparison of Evaluation Results for Water Operations and Conveyance Bundles by Short-Listing Criteria Category

Water Operations and Conveyance Bundles	SHORT-LISTING CRITERIA CATEGORY							
	Biological		**Planning/Feasibility**		**Flexibility/Durability/ Sustainability**		**Impacts to Other Resources**	
1. Real-time operation of CVP/SWP	Smelt ● Sturgeon NE	Salmonids ● Spittail ●	PRE Goals ●●	Cost ●●●	Durability ● Adaptability ●●●	Reversibility ●●●	Biological ●●●	Human ●●●
2. Reduced demand/ diversions	Smelt ●● Sturgeon NE	Salmonids ●● Spittail ●●	PRE Goals ●	Cost ●●●	Durability ● Adaptability ●●	Reversibility ●●	Biological ●●●	Human ●●●
3. Opportunistic exports	Smelt ● Sturgeon ●●	Salmonids ●● Spittail ●●	PRE Goals ●●	Cost ●● ($100sM - $1B)	Durability ● Adaptability ●●	Reversibility ●	Biological ●	Human ●
4. SDA facility	Smelt ●● Sturgeon ○	Salmonids ●● Spittail ●●	PRE Goals ●●●	Cost ● ($2-3B)	Durability ● Adaptability ●●	Reversibility ●	Biological ●	Human ●
5. Isolated facility	Smelt ●●● Sturgeon ●●	Spittail ●●●	PRE Goals ●●●	Cost ● ($2-3B)	Durability ●●● Adaptability ●●●	Reversibility ●	Biological ●	Human ●
6. Bifurcated SDA facility	Smelt ●● Sturgeon ●	Salmonids ●● Spittail ●●	PRE Goals ●●●	Cost ● ($2-3B)	Durability ●●● Adaptability ●●	Reversibility ●	Biological ●	Human ●
7. Dual conveyance facility	Smelt ●● Sturgeon ○	Salmonids ●● Spittail ●	PRE Goals ●●●	Cost ● ($1.6-$2.4B)	Durability ●● Adaptability ●●	Reversibility ●	Biological ●	Human ●
8. San Joaquin River Corridor Isolated	Smelt ○ Sturgeon **U**	Salmonids ● Spittail **NE**	PRE Goals ●●●	Cost ●● ($0.75-$1.75B)	Durability ● Adaptability ●	Reversibility ●●	Biological ●●●	Human ●●●

Key to Scoring:

Biological (smelt, sturgeon, salmonids, splittail)
● = low beneficial effects at population level; ●● = moderate beneficial effects at population level; ●●● = high beneficial effects at population level
NE = negligible or no effect
○ = low adverse effect at population level; ○○ = moderate adverse effects at population level; ○○ = high adverse effects at population level
U = unknown

Planning/Feasibility
PRE Goals ● = not likely to meet PRE goals; ●● = may meet PRE goals; ●●● = expected to meet PRE goals
Cost ● = high cost >$2B; ●● = moderate cost $500M-$2B; ●●● = low cost <$500M

Flexibility/Durability/Sustainability
Durability ● = low; ●● = moderate; ●●● = high durability against seismic events and sea level rise
Adaptability ● = low; ●● = moderate; ●●● = high adaptability to manage the Delta system for fish conservation
Reversibility ● = low; ●● = moderate; ●●● = high reversibility of elements in the bundle

Impacts to Other Resources
Biological Impacts ● = high impacts on other native species; ●● = moderate impacts on other native species; ●●● = low impacts on other native species
Human Impacts ● = high impacts on human resources; ●● = moderate impacts on human resources; ●●● = low impacts on human resources

Table 5. Conservation Element Bundle Compatibility Table

Note: The following table provides pair-wise compatibility comparisons of conservation element bundles. The table indicates which bundles can and cannot be used in combination with others. The table provides information for building the short list of conservation strategy alternatives. Compatibility scores are based on the contribution to conservation of covered fish species and not based on performance of the covered activities. A gray box indicates that pairs of conservation element bundles would only be implemented exclusive of each other. Signs indicate whether pairs: would detract from each other's performance to conserve covered fish species (-), would be compatible and not influence each other's performance to conserve covered fish species (o), or would enhance each other's performance to conserve covered fish species (+).

Conservation Element Bundles	1. Real-time operations	2. Reduce demand/ diversions	3. Export opportunistically	4. South Delta Aqueduct	5. Isolated facility	6. Bifurcated SDA	7. Dual conveyance	8. Isolate SJR from SWP/CVP	9. Minimize entrainment at SWP/CVP	10. Minimize entrainment at non-SWP/CVP	11. Improve habitat to reduce predation	12. Isolate gravel pits	13. Install screens on upstream diversions	14. Operate DCC to improve passage	15. Open DCC & install screens	16. Re-operate upstream storage facilities	17. Improve/create bypass & floodway habitat	18. Restore physical habitat (North, East, West Delta)	19. Restore physical habitat (Central Delta)	20. Restore physical habitat (South Delta)	21. Restore Suisun Marsh	22. Restore/access to upstream habitat
1. Real-time operations		+	o	+	o	+	+	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
2. Reduce demand/diversions			+	+	o	+	+	+	o	o	o	o	o	o	o	+	+	o	o	o	o	o
3. Export opportunistically				+	o	+	+	+	o	o	o	o	o	o	o	+	+	o	o	o	o	o
4. South Delta Aqueduct									o	o	o	o	o	+	o	+	+	+	+	o	o	o
5. Isolated facility										o	o	o	o			+	+	+	+	+	o	o
6. Bifurcated SDA									o	o	o	o	o	+	o	+	+	+	o	o	o	o
7. Dual conveyance								+	o	o	o	o	o	+	o	o	o	+	o	o	o	o
8. San Joaquin River Corridor Isolated									o	o	o	o	o	o	o	o	o	o	o	o	o	o
8. Minimize entrainment at SWP/CVP										o	o	o	o	o	o	o	o	o	o	o	o	o
9. Minimize entrainment at non-SWP/CVP											o	o	o	o	o	o	o	o	o	o	o	o
10. Improve habitat to reduce predation												o	o	o	o	o	o	o	o	o	o	o
11. Isolate gravel pits													o	o	o	o	o	o	o	o	o	o
12. Install screens on upstream diversions														o	o	o	o	o	o	o	o	o
13. Operate DCC to improve passage																o	o	o	o	o	o	o
14. Open DCC & install screens																o	o	o	o	o	o	o
15. Re-operate upstream storage facilities																	+	+	+	+	o	+
16. Improve/create bypass/floodway habitat																		o	o	o	o	o
17. Restore physical habitat (North, East, West Delta)																			o	o	o	o
18. Restore physical habitat (Central Delta)																				o	o	o
19. Restore physical habitat (South Delta)																					o	o
20. Restore Suisun Marsh																						o
21. Restore/access to upstream habitat																						